

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-3, 10, 12, 18, 19 and 21, amend claims 4, 5, 7, 8, 9, 11, 13, 14, 16, 17, and 20, and add new claims 22-29, as indicated below.

1-3. (Cancelled)

4. (Currently Amended) ~~The power supply of claim 3, further comprising:~~ A power supply comprising:

an enclosure of length L;

a first end wall disposed at a first end of said enclosure and a second end wall disposed at a second end of said enclosure;

an air permeable air intake port in said first end wall;

an air permeable air exhaust port in said second end wall;

an air flow generator disposed within said enclosure at least a distance L/5 from said air intake port and said air exhaust port, wherein said first end wall and said second end wall define a longitudinal axis of said enclosure;

a first electrical circuit disposed in said enclosure between said air intake port and said air flow generator;

a second electrical circuit disposed in said enclosure between said air exhaust port and said air flow generator;

a first cooling structure, thermally coupled to said first electrical circuit, having a first face substantially parallel to said longitudinal axis and a second face substantially perpendicular to said longitudinal axis; and

wherein the area of said second face is less than area of said first face.

5. (Currently Amended) ~~The power supply of claim 3, further comprising:~~ A power supply comprising:

an enclosure of length L;

a first end wall disposed at a first end of said enclosure and a second end wall disposed at a second end of said enclosure;

an air permeable air intake port in said first end wall;

an air permeable air exhaust port in said second end wall;

an air flow generator disposed within said enclosure at least a distance $L/5$ from said air intake port and said air exhaust port, wherein said first end wall and said second end wall define a longitudinal axis of said enclosure;

a first electrical circuit disposed in said enclosure between said air intake port and said air flow generator;

a second electrical circuit disposed in said enclosure between said air exhaust port and said air flow generator;

a first cooling structure, thermally coupled to said second electrical circuit, having a first face substantially parallel to said longitudinal axis and a second face substantially perpendicular to said longitudinal axis; and

wherein the area of said second face is less than area of said first face.

6. (Previously Presented) The power supply of claim 5, further comprising:

a second cooling structure, thermally coupled to said first electrical circuit, having a third face substantially parallel to said airflow axis and a fourth face substantially perpendicular to said airflow axis; and

wherein the area of said fourth face is less than the area of said third face.

7. (Currently Amended) ~~The power supply of claim 3, further comprising:~~ A power supply comprising:

an enclosure of length L ;

a first end wall disposed at a first end of said enclosure and a second end wall disposed at a second end of said enclosure;

an air permeable air intake port in said first end wall;

an air permeable air exhaust port in said second end wall;

an air flow generator disposed within said enclosure at least a distance L/5 from said air intake port and said air exhaust port, wherein said first end wall and said second end wall define a longitudinal axis of said enclosure;

a first electrical circuit disposed in said enclosure between said air intake port and said air flow generator;

a second electrical circuit disposed in said enclosure between said air exhaust port and said air flow generator;

a plurality of cooling structures, thermally coupled to either said first electrical circuit or said second electrical circuit, each of said plurality of cooling structures having a plurality of faces, including a flow face and an impedance face, wherein the summation of the area of the flow faces of the plurality of cooling structures is greater than the summation of the impedance faces of the plurality of cooling structures.

8. (Currently Amended) The power supply of claim 3 4, wherein said first electrical circuit is a primary circuit of a power supply.

9. (Currently Amended) The power supply of claim 3 4, wherein said first electrical circuit is a primary circuit operable to be coupled to an alternating current power source.

10. (Cancelled)

11. (Currently Amended) A method of operating a power supply, ~~the power supply having an enclosure having an interior and a length (L), the enclosure having first and a second end walls, the end walls defining a longitudinal axis of the enclosure, the first end wall having an air intake port disposed within it, and the second end wall having an air exhaust port disposed within it, the method comprising:~~

providing a power supply having an enclosure having an interior and a length (L), the enclosure having first and second end walls, the end walls defining a longitudinal axis of the enclosure, the first end wall having an air intake port disposed within it, the second end wall having an air exhaust port disposed within it, first and second electrical circuits within the

enclosure, a first cooling structure within the enclosure thermally coupled to the first or second electrical circuit, the first cooling structure having a first face substantially parallel to said longitudinal axis and a second face substantially perpendicular to said longitudinal axis, wherein the area of said second face is less than area of said first face;

coupling a the first electrical circuit within the interior of the enclosure to a source of input power;

transforming, within the first electrical circuit, the input power to an intermediate electrical energy;

transforming the intermediate electrical energy into an output electrical energy in a the second electrical circuit;

creating an air flow with an air flow generator disposed within the enclosure between said first circuit and said second circuit and no closer than $L/5$ to either of said first and second end walls, said air flow flowing from the exterior of said enclosure, in said air intake port, through said enclosure, and out said air exhaust port.

12. (Cancelled)

13. (Currently Amended) The power supply of claim 12, further comprising: A power supply comprising:

an enclosure having an interior and a length (L), said enclosure comprising:
a first and a second end wall;
an air intake port disposed in said first end wall;
an air exhaust port disposed in said second end wall;
wherein said first and second end walls enclose an airflow axis of said enclosure;
an air flow generator, disposed within an interior of said enclosure and operable to create
an air flow from the exterior of said enclosure, into said air intake port through said enclosure,
out of said air exhaust port, and outwards to the exterior;

a first electrical circuit disposed within said enclosure that is operable to couple to an
exterior power source and transform an input power into an intermediate power signal;

a second electrical circuit, disposed within said enclosure and coupled to said first circuit,
that is operable to receive said intermediate power signal and provide an output power, said
second circuit separated from first circuit by a separation volume, said operation of second
circuit shielded from operating characteristics of first circuit;

said air flow generator disposed within said separation volume;

a first cooling structure, thermally coupled to said first electrical circuit, having a first face substantially parallel to said airflow axis and a second face substantially perpendicular to said airflow axis; and

wherein the total area of said second face is less than a total area of said first face.

14. (Currently Amended) ~~The power supply of claim 12, further comprising:~~ A power supply comprising:

an enclosure having an interior and a length (L), said enclosure comprising:

a first and a second end wall;

an air intake port disposed in said first end wall;

an air exhaust port disposed in said second end wall;

wherein said first and second end walls enclose an airflow axis of said enclosure;

an air flow generator, disposed within an interior of said enclosure and operable to create
an air flow from the exterior of said enclosure, into said air intake port through said enclosure,
out of said air exhaust port, and outwards to the exterior;

a first electrical circuit disposed within said enclosure that is operable to couple to an
exterior power source and transform an input power into an intermediate power signal;

a second electrical circuit, disposed within said enclosure and coupled to said first circuit,
that is operable to receive said intermediate power signal and provide an output power, said
second circuit separated from first circuit by a separation volume, said operation of second
circuit shielded from operating characteristics of first circuit;

said air flow generator disposed within said separation volume;

a first cooling structure, thermally coupled to said second electrical circuit, having a first face substantially parallel to said airflow axis and a second face substantially perpendicular to said airflow axis; and

wherein a total area of said second face is less than a total area of said first face.

15. (Previously Presented) The power supply of claim 14, further comprising:
a second cooling structure, thermally coupled to said first electrical circuit, having a third face substantially parallel to said airflow axis and a fourth face substantially perpendicular to said airflow axis; and

wherein a total area of said fourth face is less than a total area of said third face.

16. (Currently Amended) ~~The power supply of claim 12, further comprising:~~ A power supply comprising:

an enclosure having an interior and a length (L), said enclosure comprising:
a first and a second end wall;
an air intake port disposed in said first end wall;
an air exhaust port disposed in said second end wall;
wherein said first and second end walls enclose an airflow axis of said enclosure;
an air flow generator, disposed within an interior of said enclosure and operable to create
an air flow from the exterior of said enclosure, into said air intake port through said enclosure,
out of said air exhaust port, and outwards to the exterior;

a first electrical circuit disposed within said enclosure that is operable to couple to an
exterior power source and transform an input power into an intermediate power signal;

a second electrical circuit, disposed within said enclosure and coupled to said first circuit,
that is operable to receive said intermediate power signal and provide an output power, said
second circuit separated from first circuit by a separation volume, said operation of second
circuit shielded from operating characteristics of first circuit;

said air flow generator disposed within said separation volume;

a plurality of cooling structures, thermally coupled to either said first electrical circuit or said second electrical circuit, each of said plurality of cooling structures having a plurality of faces, including a flow face and an impedance face, wherein the summation of the area of the flow faces of the plurality of cooling structures is greater than the summation of the impedance faces of the plurality of cooling structures.

17. (Currently Amended) The power supply of claim ~~12~~ 13, wherein said first electrical circuit is a primary stage of a power supply.

18-19. (Cancelled)

20. (Currently Amended) The power supply of claim ~~12~~ 13, wherein said air flow generator is disposed within said enclosure so that it is no nearer to either of said first and second end walls than a dimension measuring L/5.

21. (Cancelled)

22. (New) An electrical apparatus comprising:
an enclosure of length L;
a first end wall disposed at a first end of said enclosure and a second end wall disposed at a second end of said enclosure;
an air permeable air intake port in said first end wall;
an air permeable air exhaust port in said second end wall;
an air flow generator disposed within said enclosure at least a distance L/5 from said air intake port and said air exhaust port, wherein said first end wall and said second end wall define a longitudinal axis of said enclosure;
a first electrical circuit disposed in said enclosure between said air intake port and said air flow generator;
a second electrical circuit disposed in said enclosure between said air exhaust port and said air flow generator;
a first cooling structure, thermally coupled to said first electrical circuit or said second electrical circuit, having a first face substantially parallel to said longitudinal axis and a second face substantially perpendicular to said longitudinal axis; and
wherein the area of said second face is less than area of said first face.

23. (New) The electrical apparatus of claim 22, wherein the first cooling structure is thermally coupled to said second electrical circuit.

24. (New) The electrical apparatus of claim 22, wherein the first cooling structure is thermally coupled to said first electrical circuit.

25. (New) The electrical apparatus of claim 22, further comprising:

a second cooling structure, thermally coupled to said second electrical circuit, having a third face substantially parallel to said airflow axis and a fourth face substantially perpendicular to said airflow axis; and

wherein a total area of said fourth face is less than a total area of said third face.

26. (New) The electrical apparatus of claim 22, wherein the electrical apparatus is a power supply.

27. (New) The electrical apparatus of claim 25, wherein the electrical apparatus is a power supply.

28. (New) The electrical apparatus of claim 22, wherein the an air flow generator disposed within said enclosure at least a distance $L/3$ from said air intake port and said air exhaust port.

29. (New) The electrical apparatus of claim 28, wherein the electrical apparatus is a power supply.